

## PATENT SPECIFICATION

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## DRAWINGS ATTACHED

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## (54) ADAPTOR FOR BEVERAGE DISPENSE SYSTEMS

(71) We, PORTER-LANCASTRIAN LIMITED a British Company of Lancastrian Works, Bayley Street, Chorley Old Road, Bolton, Lancashire, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention concerns apparatus for the dispensing of beverages, particularly aerated beverages, and has more especial reference to an adaptor for a beverage dispense system.

The primary object of the present invention is to provide an adaptor whereby an aerated beverage might be dispensed in such a manner as to ensure the presence of an adequate head to the beverage when dispersed into an open container.

According to the present invention, an adaptor as aforesaid includes a restrictor to be disposed in the outlet of a dispense system, such restrictor comprising a body part having a venturi-shaped bore thereto, and an apertured plate at the upstream end of the said venturi, the apertures in the plate being of small dimension, the said adaptor being constructed and arranged to transmit beverage from the system for dispensing without introduction of air at such adaptor.

Preferably, the body part is counterbored to receive the plate, and the said plate is located at the inner end of the counterbore and adjacent the end of the venturi.

The invention also includes the method of dispensing an aerated beverage wherein free bubbles are formed from dissolved gas by passing such beverage through an adaptor at the dispense outlet, the said adaptor comprising a restrictor and an apertured plate provided at the upstream end thereof, the said restrictor consisting of a body part having a venturi-shaped bore thereto and the apertures in the plate being of small dimension.

The invention will now be described further, by way of example only, with reference to the

drawing filed with the provisional specification and illustrating one embodiment thereof. In the drawing:—

Fig. 1 is a longitudinal section taken through a means embodying the invention; and

Fig. 2 is a section on line II—II of Fig. 1.

Referring now to the drawings, an outlet pipe 11 of a beverage dispense system has an adaptor 12 applied thereto, such adaptor 12 comprising a generally cylindrical body part 12a having a venturi-shaped bore 13 thereto, and an apertured plate 12b located at the inner end of a counterbore 14 at the upstream end of the said bore.

The body part 12a is approximately two inches long, and such part is counterbored to an extent of one quarter of an inch at three eighths inch diameter. The inlet end 13a of the venturi-shaped bore has a maximum diameter of one quarter of an inch and has an angle of 30°. The venturi throat 13b is one eighth of an inch long and one sixteenth of an inch in diameter, whilst the outlet end 13c of the bore has a divergent angle of 14° and a maximum diameter of three eighths of an inch.

The outer surface of the body part is screw-threaded at the one end thereof for engagement with the pipe 11, whilst the other end is likewise threaded to receive a discharge pipe 15.

The apertured plate 12b is a close fit in the counterbore 14 to the body part and is of 16's gauge stainless steel. The apertures 12b<sup>1</sup> are five in number and are each of twenty three thousandths of an inch diameter. Four of the apertures in the plate are equispaced about a circle three sixteenths of an inch in diameter, whilst the fifth aperture is located at the centre of such circle and co-axially with the bore 13.

In use, when dispensing beer, bubbles are formed in the beer by the pressure reduction at the plate, the size of the bubbles being

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varied by passage through the venturi-shaped bore.

The invention is not restricted to the exact features of the embodiment hereinbefore described since alternatives will readily present themselves to one skilled in the art. Thus, for example, the plate, instead of being positioned within a counterbore in the body part, may be located between the end of the body part and the pipe, the component parts being appropriately formed to achieve this end.

# WHAT WE CLAIM IS:—

1. An adaptor for use in a system for dispensing aerated beverages including a restrictor to be disposed in the outlet of a dispense system and an apertured plate at the upstream end of the said restrictor, the said restrictor comprising a body part having a venturi-shaped bore thereto and the apertures in the said plate being of small dimension, the said adaptor being constructed and arranged to transmit beverage from the system for dispensing without introduction of air at such adaptor.

2. An adaptor as claimed in claim 1 wherein the body part is counterbored to receive the plate.

3. An adaptor as claimed in claim 2 wherein the plate is located at the inner end of the counterbore.

4. An adaptor as claimed in claim 3 wherein the plate is seated on a step at the inner end of the counterbore and between such counterbore and the venturi.

5. An adaptor as claimed in any one of the preceding claims wherein one aperture in the plate is located at the centre of a circle and the remaining apertures are located on such circle.

6. An adaptor as claimed in claim 5 wherein the apertures are five in number.

7. An adaptor as claimed in any one of the preceding claims wherein the apertures are each circular and of approximately twenty three thousandths of an inch diameter.

8. An adaptor as claimed in any one of the preceding claims wherein the said body part is externally cylindrical and is screw-threaded to receive inlet and outlet pipes into engagement therewith.

9. A method of dispensing an aerated beverage which includes the step of forming free bubbles from dissolved gas by passing such beverage through an adaptor at the dispense outlet the said adaptor comprising a restrictor and an apertured plate provided at the upstream end thereof, the said restrictor consisting of a body part having a venturi-shaped bore thereto and the apertures in the plate being of small dimension.

10. An adaptor substantially as hereinbefore described with reference to and as illustrated in the drawing filed with the provisional specification.

11. The method of dispensing an aerated beverage substantially as hereinbefore described with reference to and as illustrated by the drawing filed with the provisional specification.

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